REMARKS

The claim objections raised by the Examiner have been addressed and suitable amendments have been made. As to claims 28, 31, 34, 35 and 39, a definition for iData has been added which comes from the bold part of the following passage from the specification, page 6, line 3:

> The packet switch 10 is also shown as receiving TCP/IP internet protocol packet stream inputs from optional sources such as web server 22 and/or other headend circuitry 24 in the metropolitan area where the cherrypicker of Figure 1 is located. Those other headends may also be coupled to a headends network that is nationwide via a national backbone represented by cloud 26. For example, in the future it may be that Time Warner builds a national landline or satellite based video network to distribute requested video to any Time Warner affiliate cable TV headend or DSL central office. Likewise, citywide distribution of video-on-demand selection may occur over a citywide video network coupling multiple cable headends and DSL central offices. TCP/IP packets from web server 22 may include web pages, e-mail, voice over IP, distance learning, videoconference data, webcasts, streaming video, streaming audio or any of the other types of data that are transmitted over the internet. **The data from the web server 22 and the other headends encapsulated in TCP/IP or UDP/IP packets which are themselves encapsulated in LAN packets for transmission over LAN segment 36 or WAN segment 38 and LAN segment 64 will generally be referred to herein and in the claims as iData to distinguish it from video program data from the IP wrapper circuit 12 even though the packets from the other headends 24 may encapsulate video or VOD programs and the iData from the web server may be streaming video.**

The claim rejections under 35 USC 112 have all been addressed and suitable amendments have been made. Any other amendments to the claims made which are not addressed to the specific rejection made by the Examiner are made voluntarily to improve the form of the claim or its coverage. As to the rejection of claims 38 and 42, an amendment was made to specify that the modem spoken of in that claim is actually a POTS modem for the upstream and satellite uplink and transponder circuitry for the downlink.

Claim 1 was rejected as anticipated by U.S. 6,798,751. The undersigned hereby respectfully requests this rejection be withdrawn on grounds the cited reference does not anticipate the

structure or function of the cherrypicker multiplexer. The multiplexer 115 in Figure 14 of U.S. 6,798,751 is stated to perform the following functions in the ADSL environment taught there:

> The ADSL units 113 in the CO (ATU-Cs) essentially act as modulator/demodulators (modems) for sending and receiving data over the subscriber telephone lines 300. On the network side, each of the ATU-Cs 113 connects to the MUX 115. <u>The MUX 115 multiplexes and demultiplexes the upstream and downstream data for the ADSL modems 113 and provides a connection to a high-speed link 119.</u> Through subtending, the MUX 115 may also provide a data concentration for the communications over the link 119.

(emphasis mine)

Later in the specification of U.S. 6,798,751, the following statement is made:

> The MUX 115, the ATM switch 123, and the gateway router 125 concentrate and regulate the subscriber traffic going to and from the ISPs, typically on some type of "best efforts" basis.

In discussing the DSLAMs in figure 1 (the circuits that contain the multiplexers), the following statements were made:

> Returning to the discussion of the CO 11, the structure and operation of each DSLAM 17 is essentially the same as those of the DSLAM 111 in the embodiment of FIG. 9, except that the control functionality of the DSLAM 17 is somewhat different. <u>The DSLAM 17 controls the ATU-Cs to implement a rate-adaptive ADSL service, to adapt operations so as to maximize data rates for the communications over the individual subscriber lines. Essentially, the ATU-Cs and ATU-Rs signal each other over the lines to synchronize their modes of operation at parameter settings, which achieve optimum data throughput</u>. Also, the DSLAM 17 does not need to monitor or limit the line rates, but instead relies on the rate-adaptive control algorithm to maximize the rates achieved over the ADSL circuits or provide rate-shaping for the ATM virtual circuits. Other network elements limit rates, where necessary.
>
> The L3/4 ATM switch 19 is co-located with the DSLAMs 17, within one central office 15. As a result, it is practical to connect the multiplexer within each of the DSLAMs 17 over a high-speed data link directly to an appropriate port of the ATM switch 19.

A DSLAM is defined Newton's Telecom Dictionary (15th Edition 1999) Miller Freeman, Inc., New York as:

> "a Digital Subscriber Line Access Multiplexer. A new technology being developed to concentrate traffis in ADSL implementations through TDM (time division multiplexing) at the CO (Central Office) or remote line shelf."

The undersigned takes this to mean that the DSLAMS establish the multiple upstream and downstream logical channels at different speeds. Newton's Telecom Dictionary defines ADSL as having a downstream information bearing channel which provides bandwidth in T-1/E-1 increments with an upstream channel of 16 Kbits per second. This means that the function of the DSLAMs is to apportion the timeslots on each twisted pair to establish these upstream and downstream channels having the designated bandwidth. The

passages from the specification of the reference patent at Col. 3, line 65 et seq. to Col. 4, lines 14-17 in discussing Figure 14 indicates that the DSLAMs multiplex to create these upstream and downstream channels. The other passage quoted above indicates the DSLAMs cooperate with the ATU-C units (DSL modems) to implement a rate adaptive service which optimizes data throughput.

DSLAMS ARE NOT NETWORK CHERRYPICKERS

These passages quoted above paint a very different picture of what the multiplexers in the DSLAMs do than what the cherrypicker multiplexers in claim 1 do. The one or more cherrypicker multiplexers of claim 1 function to tell the front end packet switch which MPEG packets to encapsulate and send to each cherrypicker switch and what Ethernet station address to assign to each, and receive MPEG packets encapsulated in LAN packets having the Ethernet station address derived from each PID, recognize the Ethernet station address (any other type of LAN could be used also) and recover the MPEG data for use in transmitting data to a customer directly or indirectly.

The following passages from page 5 of the specification of the patent application at bar gives more detail about what the cherrypicker multiplexers do in the preferred embodiment and in various alternative embodiments.

> The backend of the cherrypicker is comprised of a plurality of cherrypicker switches 30 and 32 and an IP dewrapper circuit 76. The cherrypicker switches function, inter alia, to send Ethernet packets to the packet switch 10 telling it which MPEG packets each wants defined in terms of Ethernet station addresses. Packet switch 10 functions to receive the packets from each cherrypicker switch 30 and 32 designating which Ethernet station addresses it wants sent to it, and to then set up a data path and routing table or other routing circuitry in the switch 10 to route packets with the designated Ethernet stations addresses out on the proper LAN segment to the cherrypicker switch that requested them. Only the packets that have been requested are sent to the cherrypicker switches as opposed to the prior art structure with splitters where each cherrypicker switch received MPEG stream packets from the splitters that had to be rejected. This is one fact that improves the performance and scalability of the system because less processing time is wasted in the cherrypicker rejecting packets that will not be incorporated into the MPEG transport streams each cherrypicker switch is generating.
>
> The cherrypicker switches have front end processing circuitry and software that the prior art cherrypicker multiplexers did not have to be able to receive LAN packets encapsulating TCP/IP packets. That circuitry is shown at 154 in Figure 8. The cherrypicker multiplexers also recognize the LAN addresses and TCP/IP addresses and use that information generated from the PIDs to sort the incoming packets into one or more MPEG transport streams going to video-on-demand and/or customers who have requested internet data or other data from application server 25. The cherrypicker multiplexers also optionally recode at least the VOD and/or other video program data to the proper bandwidth for the downstream available bandwidth and repacketize into MPEG packets. In some embodiments, the cherrypicker multiplexers packetize the MPEG packets into UDP/IP packets and Ethernet packets addressed to the IP dewrapper 76 and send them to the packet switch 10 which

routes them to IP dewrapper 76 which strips off the LAN and UDP/IP packet headers and reassembles each MPEG transport stream and outputs it to the proper transmitter or modem. In other embodiments, such as that shown in Figures 11 and 12, each cherrypicker multiplexer outputs one or more MPEG transport streams directly to its own transmitter(s) or modem(s).

Accordingly, the cherrypicker multiplexers in claim 1 are not the same types of circuits as the multiplexers 115 in the ADSL DSLAMs described in the allegedly anticipating reference. Withdrawal of the rejection is respectfully requested because anticipation is only a proper rejection when every element in the claim is found identically in a single reference which is clearly not the case here. The cherrypicker switches or multiplexers have different functions than the DSLAM multiplexers and will therefore have different structures.

Since claim 1 is now allowable, all its dependent claims should also be allowable and there is no reason to re-write them as independent claims.

Respectfully submitted,

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